



United Nations  
Environment  
Programme



Distr.  
RESTRICTED

UNEP/IAAC-XVII/1  
18 April 1984

Original:  
English

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XVII Meeting of the Inter-Agency Advisory  
Committee (IAAC) for MED POL

Athens, 9 - 13 April 1984

M I N U T E S

## INTRODUCTION

1. The Meeting was convened by the Co-ordinating Unit for the Mediterranean Action Plan in collaboration with the Regional Seas Programme Activity Centre of UNEP. All Co-operating Agencies (FAO, WHO, WMO, UNESCO, IOC and IAEA) were invited to attend the meeting which took place at the office of MED UNIT in Athens, on 9 April 1984 (see list of participants attached as Annex I).

### Agenda item 1 - Opening of the Meeting

2. A. Manos opened the Meeting welcoming the participants. He briefly summarized the main achievements of MED POL since the last IAAC Meeting was convened (November 1983) and stated the importance of this Meeting in view of the coincidence with the Extraordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against pollution and its related protocols.

### Agenda item 2 - Review of MED POL activities implemented since November 1983

3. A. Cruzado informed the participants of the main achievements of MED POL, focussing on the monitoring activities, where he informed of four completed agreements. He also stated that assistance had been provided to Cyprus, Israel and Yugoslavia and training had been organized in Yugoslavia and Cyprus. In addition, efforts were being made in order to keep all scientists participating in MED POL informed of the progress of the work and integrate them better in the programme.

4. The representative of IAEA informed the group that, in the framework of the monitoring activities, the instruments that the organization had been asked to purchase for participating laboratories in Cyprus had been acquired. He informed that, as to Yugoslavia, although all arrangements for purchasing the instruments requested had been completed, the purchase action had to be delayed due to the fact that the funds were not available in the early part of 1984. For the same reason, the training of Yugoslav scientists had to be postponed until the funds became available. The IAEA representative also stressed that the ILMR should be informed well in advance about the expected dates of training in order to organize their work for achieving effective training. He also reported on the results of the intercalibration exercise for heavy metals and chlorinated hydrocarbons, where, respectively, 20 and 10 samples had been sent out with, until the present moment, a relatively low response. He announced that the new sample (shrimp) was ready for distribution and that it could be announced to the participating institutes, while the fish sample would be ready during autumn 1984.

5. The FAO representative reported on the progress in the organization of the Meeting on the testing of Reference Methods to be held in Rome, 4-8 June 1984. He informed on the expected number of participants as well as on the Reference Methods to be discussed. He also informed that, once the meeting will have provided comments and amendments on the Methods, ILMR in Monaco would incorporate the changes and finalize the methods. He also mentioned the purchase of equipment provided through FAO and the recruitment of consultants and training of personnel in the framework of the assistance component.

6. The WHO representative reported that, in the framework of the monitoring, equipment had been ordered for Israel and Yugoslavia, as requested. As to the preparation of the Reference Methods, he informed the group that Reference Method No. 1 had been revised at the MED UNIT, that the Methods on BOD/COD, Phosphorus and Nitrogen would be ready by the end of May, and that new Methods on pathogenic organisms would be ready by 30 April. As to the intercalibration exercise on the MF Method, he informed of some problems being encountered in the preparation of the exercise in Greece, where the MPN Method was more in use. He also informed that another intercalibration exercise would be organized in Tunisia in October.

7. The IOC and UNESCO representative reported on the intercalibration exercise on petroleum hydrocarbons being carried out. From about 100 addresses approached, 13 had indicated an interest in participating and therefore received samples for analysis. Of these, 11 had returned results and a complete analysis of the exercise is expected to be ready early in May. As to the preparation of a new DRIFTEX experiment in the eastern Mediterranean, it was considered important that the report of the first DRIFTEX experiment (for the western basin) be finalized by the UNEP secretariat before launching a new one. The International IAEA/UNESCO Centre in Trieste was reported as being ready to collaborate to the new DRIFTEX experiment at no cost. The group was informed by the IOC/UNESCO representative that preliminary contacts had been made with Dr. Albaigés to organize a meeting in Barcelona on the Reference Methods on the analysis of dissolved/dispersed petroleum hydrocarbons as well as on microlayer sampling. A beach tar exercise could be also associated with this meeting, but he felt that this should be further discussed. He also informed that the draft Reference Method on monitoring of tar on beaches had been prepared and that the Method for determination of petroleum hydrocarbons had been put in UNEP format. During the meeting he also distributed a copy of IOC Manual and Guides No. 13 on Methods for monitoring of petroleum hydrocarbons.

8. The representative of WMO reported on the installation of two high volume samplers in France and Yugoslavia in the framework of the monitoring of transport of pollutants through the atmosphere. Two additional high volume samplers were ready to be distributed and contacts had already been taken as for their installation in Italy (Trapani) and Greece or Turkey. A joint WMO, IAEA (in charge of the analysis of the samples) and UNEP visit to the two operating stations in France and Yugoslavia was considered important and the WMO representative was asked to make arrangements to make it possible. Further arrangements to implement the parts of the MED POL for which WMO is responsible would be discussed at a meeting to be arranged in Geneva between WMO and UNEP staff in early May.

Agenda item 3 - Research activities : status of development and follow-up activities

9. The UNEP secretariat distributed at the meeting summary tables listing: 1) all research projects received and processed up to end of 1983; 2) all new 1984 research projects, and 3) all 1983 research proposals not yet cleared which possibly needed further negotiations. Tables 2) and 3) were analysed and discussed and, as updated, are attached as Annex II.

10. A number of remarks were made in connection with the procedure for further implementation of research activities. In particular the group decided that, in line with the recommendations of the WGSTC, new agreements and extensions would be reviewed after 15 March deadline and that a progress scientific report should be required at the end of the year and that each agreement should be stipulated for a period going, each year, from 1st July to 30 June of the following year.

Agenda item 4 - Publication of scientific reports of research activities

11. In introducing this agenda item, the secretariat distributed a draft outline of a publication that the MED UNIT intended to publish in regular series. The publication would contain the full scientific reports of the scientists participating in MED POL and had the main purpose of circulating scientific information and results among scientists and governments. Each report was agreed to contain no more than 15/20 pages including figures and tables. A first issue containing the already available reports to be provided by the Co-operating Agencies after reviewing their contents will be published with no delay in order to solicit additional contributions. The outline of the document is attached as Annex III.

12. The IOC/UNESCO representative expressed concern that, since these organizations did not receive any additional support for that work, the large amount of editing implied by the proposed procedure would add a further burden on the secretariats.

Agenda item 5 - Adoption of the Minutes and closure of the Meeting

13. The draft minutes were circulated for comments and approval during the Extraordinary Meeting of the Contracting Parties to the Barcelona Convention that all Agencies' representatives attended. Some amendments were given to the secretariat and were incorporated into the minutes.

A N N E X I

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A N N E X    I I

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I. RESEARCH PROPOSALS FOR FURTHER NEGOTIATIONS

F A O

COUNTRY	Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. MTF US (\$)	Remarks
ALGERIA					
3	Dept. de Pollution C.R.O.P.	Recherches sur la toxicité, la persistance, la bioaccumulation, la cancérogénicité et la mutagénicité (K. BENSALAH)	FAO-G	82: 83: 84:	project closed
EGYPT					
1	Dept. of Hydrobiology Institute of Oceanography & Fisheries, Kayet Bay, Alexandria	Eutrophication and concomitant plankton blooms (H.A. SULTAN)	FAO-H	82: 83: 84:	project closed
5	Dept. of Aquatic Pollution Project University of Alexandria Research Centre, (UNARC) P.O. Box 832, Alexandria	Pollution induced ecosystem modifications (Y. HALIM)	FAO-I	82: 83: 84:	project closed
6	University of Alexandria Research Center - UNARC P.O. Box 832 - Alexandria	Development and testing of sampling and analytical techniques for monitoring of marine pollutants (I.H. EL-SOKKARY)	FAO-A	82: 83: 84:	(being used for testing methods)

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and MTF contrib. US (\$)	Remarks
9 Univ. of Alexandria Research Centre - UNARC P.O. Box 832 - Alexandria	Development and testing of sampling and analytical techniques for monitoring of marine pollutants (M.F. MACKLAD)	FAO-A	82: 83: 84:	(being used for testing methods)
FRANCE				
2 Station Marine d'Endoume et Centre d'Océanographie, Marseille	Modifications dans les écosystèmes benthiques de substrats durs et demi-durs (D. BELLAN-SANTINI)	FAO-I	82: 83: 84:	project closed
8 Centre d'Etudes et de Recherches de Biologie et d'Océanographie Médicale (C.E.R.B.O.M.) Nice	Projet d'Etudes de la toxicité de composés en milieu marin: toxicité directe immédiate, toxicité après biodegradation et toxicité induit à travers les chaînes biologiques (M. AUBERT)	FAO-G	82: 83: 4,000 84:	cleared
9 Institut scientifique et technique des Pêches Nantes	Programme d'évaluation de la contamination en mercure et méthylmercure en Méditerranée: analyse dans les poissons et coquillages (Y. THIBAUD)	FAO-D	82: 83: 84:	negotiating
GREECE				
3 Ministry of Social Services Environmental Pollution Control Project 147 Patission Str. Athens 814	Structural and physiological changes in benthic communities as a measure of the state of pollution in marine environments (A. J. ZARKANELLAS)	FAO-I	82: 83: 84:	project closed

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. US (\$)	MTF	Remarks
<b>ISRAEL</b>					
2	Chemical Oceanography & Marine Pollution Dept. Israel O. & L. Research Haifa	Development of sampling and analytical techniques for monitoring of total mercury content in marine organisms and sediments (B.S. KRUMGALZ)	FAO/ IAEA-A	82: 83: 84:	(being used for testing methods)
4	Chemical Oceanography & Marine Pollution Dept. Israel O. & L. Research Haifa	Biogeochemical cycle of mercury in a polluted area (B.S. KRUMGALZ)	FAO-K	82: 83: 84:	project closed
5	Chemical, O. & M.P. Dept. Israel O. & L. Research Haifa	Development of sampling & analytical techniques for monitoring of cadmium in marine organisms (B.S. KRUMGALZ)	FAO-A	82: 83: 84:	(being used for testing methods)
<b>ITALY</b>					
10	Gruppo Ricerca Oceanologica Istituto di Chimica Generale Università di Genova V. Benedetto XV-3, 16132 Genoa	Développement et mise au point de techniques d'échantillonnage et de techniques analytiques pour l'étude et le dosage de polluants en milieu marin (R. CAPELLI)	FAO-A	82: 83: 84:	(being used for testing methods)
15	Dipt. Studi Ambientali Istituto Guido Donegani Centro Ricerche Napoli V. Nuova delle Brezze 150 80147 Napoli	PCB's high chlorinated in marine environment: a) Review on effects; b) Studies of persistence and bioaccumulation; c) Studies on acute and chronic toxicity on micro-organisms (R. DE SIMONE)	FAO-G	82: 83: 84:	project closed

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. US (\$)	MTF	Remarks
27 Laboratory of General Physiology Istituto di Biologia Animale Università di Padova Via Loredan, 10, 35100 Padova	Toxic effects and metabolism of heavy metals, related also to mutagenic and carcinogenic short-term tests, according to their chemical species and to the interactions with organic pollutants in marine waters (V. ALBERGONI)	FAO-G	82: 83: 84:		project closed
38 Istituto di Chimica Generale GROG Università di Genova V.le Benedetto XV, 3, Genova	Determination of total mercury, methyl-mercury and selenium in seafood (R. CAPELLI)	FAO-D	82: 83: 84: 3,000		cleared
39 Istituto di Biologia Ambientale Università di Siena Siena	Contaminants in resident and migratory birds in the Eastern Mediterranean fly-away (A. RENZONI)	FAO-G	82: 83: 84:		negotiating
MONACO					
2 Lab. de Microbiologie et d'Etudes des Pollutions Marines Centre Scientifique de Monaco	Modification des conditions écologiques dans un système côtier semi-ferm, soumis aux effets de l'activité humaine (R. VAISSIERE)	FAO-I	82: 83: 84:		project closed

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. US (\$)	MTF	Remarks
<b>SPAIN</b>					
1 Quimica Analitica Instituto Quimico de Sarria c/ Instituto Quimico de Sarria Barcelona 17	Analisis de DDT's en mejillones, estudio metodologico y analisis de muestras del Delta del Ebro y de bateas para el consumo humano (M. GASSIOT-MATAS)	FAO-A	82: 83: 84:		(being used for testing methods)
5 Quimica Analitica Instituto Quimico de Sarria c/ Instituto Quimico de Sarria Barcelona 17	Puesta a punto de la determinacion de selenio, arsenico, plomo, cadmio y mercurio organico, en sedimentos, agua y organismos (J. OBIOLS)	FAO/ IAEA-A	82: 83: 84:		(being used for testing methods)
<b>TURKEY</b>					
6 Institute of Hydrobiology Science Faculty Ege University Bornova/Izmir	Biochemical cycles of specific pollutants. (Studies on some heavy metals (specially Mercury, Cadmium and Lead) concentration of some selected indicator marine organisms from the Izmir Bay and vicinity) (H. UYSAL)	FAO-K	82: 83: 84:		project closed
<b>YUGOSLAVIA</b>					
12 Center for Marine Research Rudjer Boskovic Institute Zagreb	Development of scientific criteria for a code-of-good-practice in siting of thermal effluents in the Mediterranean Region (V. PRAVDIC)	FAO-J	82: 83: 84:		project closed

W H O

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activ. and Agency	MTF contrib. US (\$)	Remarks
<b>ALGERIA</b>				
2 Dept. de Pollution C.R.O.P.	Etudes épidémiologiques relatives aux critères de qualité de l'environnement (S. KRIM)	WHO-D	82: 83: 84:	negotiating
<b>EGYPT</b>				
Univ. of Alexandria Research Centre - UNARC P.O. Box 832 - Alexandria	Formulation of Scientific Rationale for Mediterranean Environmental Quality Criteria (F. EL-SHARKAWI)	WHO-C	82: 83: 84:	
Univ. of Alexandria Research Centre - UNARC P.O. Box 832 - Alexandria	Development of proposals for guidelines and criteria governing the application of the Land-based Sources Protocol (F. EL-SHARKAWI)	WHO-E	82: 83: 84:	
<b>FRANCE</b>				
10 Institut national de la Santé et de la Recherche Médicale I.N.S.E.R.M. Service Commun no. 1 1, Ave Jean Lorrain 06300 Nice	Révivification de germes fécaux indicateurs de pollution marine. Numération par filtration sur membranes des eaux marines à vocation balnéaire (P. BERNARD)	WHO-A	82: 83: 84:	cleared 2,000

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. US (\$)	MTF	Remarks
<b>GREECE</b>					
5 Inst. of Oceanographic and Fisheries Research Aghios Kosmas, Hellinikon Athens	Analysis of coprostanol and its use as an indicator of faecal pollution (G.P. GABRIELIDES)	WHO-A	82: 83: 84:		proposal withdrawn
Athens Center of Ekistes 24, Strat. Syndesmou street Athens	Development of reporting formats required according to the dumping, emergency and Land-based Sources Protocols (A. KATSAOUNIS)	WHO-B	82: 83: 84:		
<b>ISRAEL</b>					
3 Dept of Biology Israel O. & L. Research Haifa	Effect of pollution on microbial communities in the Eastern Mediterranean Sea (B. CAVARI)	WHO-K	82: 83: 84:		proposal withdrawn
<b>TURKEY</b>					
Dept. Environmental Engineering Middle East Technical Univ. Ankara	Pollution control studies in the Mediterranean coastal waters (Turkey) (Y.F. OZTURK)	WHO-C	82: 83: 84:		
<b>YUGOSLAVIA</b>					
14 Center for Marine Research, Rovinj; Institut fur Physiologische Chemie Mainz; and Rudjer Boskovic Inst., Zagreb	The correlation between levels and effects of mutagenic pollutants in marine environment (B. KURELEC)	WHO-A	82: 83: 84:		negotiating

W M O

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. MTF US (\$)	Remarks
ITALY				
4 Osservatorio Meteorologico di Brera, Via Brera 28 20121 Milano	Dynamic climatology & modelling of long range transport of air pollution over Mediterranean sea (L. SANTOMAURO)	WMO-L	82: ? ? 83: ? ? 84:	cleared
17 Working group of Meteorology and Oceanography, Institute of Geology & Geophysics Largo S. Marcellino 10 80138 Napoli	Pollutant transport models at the air-sea interface (A. PALUMBO)	WMO-L	82: 83: 84:	negotiating
20 Cattedra di Oceanografia fisica Gruppo di Ricerca Oceanologica Via Balbi, 30, Genova	Monitoring of the transport of pollutants through the atmosphere (I. DAGNINO)	WMO-L	82: 83: 84:	proposal withdrawn



COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator Agency	Activ. and Agency	MTF contrib. US (\$)	Remarks
34 Osservatorio Geofisico dell' Università Via Campi, 213/A 41100 Modena	Transfer of pollutants from the atmosphere to the Northern Adriatic Sea and to the Northern Tyrrhenian Sea (R. CECCHI)	WMO-L	82: 83: 84:	negotiating
<b>MOROCCO</b>				
1 Section de Génie de l'Environnement Ecole Mohammadia d'Ingenieurs Rabat	Contribution à l'étude des mecanismes de transport et du flux de polluants à travers l'interface air/mer (M. NEJJAR)	WMO-L	82: 83: 84:	negotiating
<b>TURKEY</b>				
10 Marine Science Institute Middle East Technical Univ. P.O. Box 28, Erdemli, İçel	Monitoring of atmospheric trace metal transported to the Eastern Mediterranean (C. SAYDAM)	WMO-L	82: 83: 84:	negotiating
<b>YUGOSLAVIA</b>				
29 Centre for Inter-Republic and International Programme and Development Federal Hydrometeorological Institute Bircarinova 6, P.O.B. 604 11001 Belgrade	Preliminary study of potential long-range cadmium transport from major identified sources in Europe into Mediterranean region (Z.I. JANJIC)	WMO-L	82: 83: 84:	negotiating

IOC

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Agency	Activ. and contrib. US (\$)	MTF	Remarks
<b>ALGERIA</b>					
1 Dept. de Pollution Centre de Recherches Océanographiques et des pêches Jetée Nord BP.90 Alger-Bourse	Mise au point et essai de techniques d'échantillonnage et d'analyse pour la surveillance des polluants de la mer (A. CHOUIKHI)	IOC-A	82: 83: 84:		negotiating
<b>EEC</b>					
1 Commission des Communautés Européennes Centre Commun de Recherche Ispra	Etude du transport côtier de la pollution (P. FRAYSSE)	IOC-L	82: 83: 84:		negotiating
<b>EGYPT</b>					
8 Univ. of Alexandria Research Centre - UNARC P.O. Box 832 - Alexandria	Pollutant Transfer Processes (M.F. MACKLAD)	IOC-L	82: 83: 84:		negotiating
<b>FRANCE</b>					
4 Faculté de Pharmacie Laboratoire d'Hydrologie Université d'Aix, Marseille	Sédimentation et évolution des dépôts dans une zone littorale industrielle (A. ARNOUX)	IOC-L	82: 83: 84:		negotiating

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator Agency	Activ. and Agency	MTF contrib. US (\$)	Remarks
<b>GREECE</b>				
6 Lab. of Physical Geography of Athens Couponia-Kaisariani, Athens	Dynamical Study of surface cold water patterns appearing in the Gulf of Korinth (A. LASCARATOS)	IOC-F	82: 83: 84:	negotiating
<b>ISRAEL</b>				
1 Dept of Marine Geology Israel Oceanographic & Limnological Research Tel-Shikmona, POB 8030, Haifa	Tar balls dispersal and accumulation on the beach and their relation to wave and current regime (A. GOLIK)	IOC-L	82: 83: 83:	closed
<b>ITALY</b>				
2 Physical Oceanography Dept Consiglio Nazionale delle Ricerche Istituto per lo Studio della Dinamica delle Grandi Masse Stazione Oceanografica Via Bagnara 2 19036 S. Terenzo (La Spezia)	Dynamic condition in the Eastern Ligurian Sea (M. ASTRALDI)	IOC-F	82: 83: 84:	closed
5 Consiglio Nazionale delle Ricerche Ist. Talassografico di Trieste Viale R. Gessi 2, Trieste	Coastal dynamic processes and surface transport in the Gulf of Trieste (Northern Adriatic) - "DYGUTS" (F. STRAVISI)	IOC-F	82: 83: 84:	negotiating
12 Istituto Studio Dinamica Grandi Masse, CNR - S. Polo 1364 30125 Venice	Modelling of circulation processes in the Northern Adriatic and their influence on the distribution of pollutants, considered as passive scalars (P. MALANOTTE RIZZOLI)	IOC-F	82: 83: 84:	negotiating

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator Agency	Activ. and Agency	MTF contrib. US (\$)	Remarks
18 Cattedra di Chimica Generale ed Inorganica Facoltà di Farmacia c/o Istituto Dip. di Chimica Università di Catania V. le A.Doria 6 95125 Catania	Studies and monitoring of trace metals in marine waters by inductively coupled plasma (ICP) emission spectrometry (G. C. PAPPALARDO)	IOC-A	82: 83: 84: Free	cleared
33 Osservatorio Geofisico Università di Modena V. Campi 213/A, 41100 Modena	Approximate models for the Northern Adriatic Sea and experimental checks of currents in fixed points (R. SANTANGELO)	IOC-F	82: 83: 84:	negotiating
35 Istituto per lo Studio della Dinamica delle Grandi Masse - CNR 1364 San Polo, 30125 Venezia	Flow of pollutants (nutrients and heavy elements) into the lagoon of Venice from natural and agricultural rivers (F. COSTA)	IOC-L	82: 83: 84:	negotiating
37 Istituto di Chimica Generale ed Inorganica Facoltà di Chimica Industriale Calle larga, S. Marta 2137 30123 Venezia	Transport mechanism of pollutants at the sediment-water interface (A.A. ORIO)	IOC-L	82: 83: 84:	negotiating
MONACO				
1 Lab. de Microbiologie et d'Etudes des Pollutions Marines Centre Scientifique de Monaco	Etude de la circulation superficielle littorale de la Côte d'Azur (aire de Monaco) et de ses relations avec la circulation générale en Mer Ligure (R. VAISSIERE)	IOC-F	82: 83: 84:	negotiating

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator Agency	Activ. and Agency	MTF contrib. US (\$)	Remarks
4 Lab. de Microbiologie et d'Etudes des Pollutions Marines Centre Scientifique de Monaco	Evaluation des études en cours sur les flux travers les détroits et les seuils sparant les différents bassins de la Méditerranée (R. VAISSIERE)	IOC-L	82: 83: 84:	negotiating
YUGOSLAVIA				
15 Center for Marine Research Rudjer Boskovic Institute Zagreb	Mathematical modelling of horizontal circulation and vertical distribution of currents in the Northern Adriatic (M. KUZMIC)	IOC-F	82: 83: 84:	negotiating
17 Center for Marine Research Rudjer Boskovic Institute Zagreb	Development of electrochemical techniques and their application in laboratory and "on board" for determination and specification of heavy trace metals in the Mediterranean (M. BRANICA)	IOC-A	82: 83: 84:	negotiating
18 Center for Marine Research Rudjer Boskovic Institute Zagreb	Development of new electroanalytical techniques for determination of surface active substances and detergents in sea-water and sea surface microlayer (B. COSOVIC)	IOC-A	82: 83: 84:	negotiating
25 Institute of Biology Univ. E. Kardelj Askerceva 12 Ljubljana	Modifications of the suspended organic matter composition and sedimentation in the polluted coastal waters (J. FAGANELI)	IOC-F	82: 83: 84:	negotiating

I A E A

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activ. and Agency	MTF contrib. US (\$)	Remarks
<b>ISRAEL</b>				
2 Chemical Oceanography & Marine Pollution Dept. Israel O. & L. Research Haifa	Development of sampling and analytical techniques for monitoring of total mercury content in marine organisms and sediments (B.S. KRUMGALZ)	FAO/ IAEA-A	82: 83: 84:	(being used for testing methods)
<b>ITALY</b>				
3 Facolta' Chimica Industriale Istituto Chimica Generale ed Inorganica Sezione Mineralogica Calle Larga S. Marta, 2137 30123 Venezia.	Textural and mineralogical characters and role in the pollution processes of bottom sediments in the Northern Adriatic Sea (O. HIEKE MERLIN)	IAEA-L	82: 83: 84:	negotiating
14 Istituto di Zoologia Facoltà di Scienze V. dell'Università 12 - 43100 Parma	Study on the <sup>137</sup> Cs and <sup>239</sup> Pu fluxes into Mediterranean marine environment (L. TASSI PELATI)	IAEA-L	82: 4,000 83: 84:	cleared

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator Agency	Activ. and Agency	MTF contrib. US (\$)	Remarks
<b>SPAIN</b>				
5 Quimica Analitica Instituto Quimico de Sarria c/ Insituto Quimico de Sarria Barcelona 17	Puesta a punto de la determinacion de selenio, arsenico, plomo, cadmio y mercurio organico, en sedimentos, agua y organismos (J. OBIOLS)	FAO/ IAEA-A	82: 83: 84:	(being used for testing methods)
<b>TURKEY</b>				
4 Marine Science Dept. Middle East Technical Univ. P.K. 28 Erdemli, Icel	Development and testing of sampling and analytical techniques for monitoring of polychloroterpenes and chlordane (I. SALIHOGLU)	IAEA-A	82: 83: 84:	negotiating
<b>YUGOSLAVIA</b>				
16 Center for Marine Research Rudjer Boskovic Institute Zagreb	Improvements and testing of the methods of analysis for chlorinated and petroleum hydrocarbons in water and sediments (M. PICER)	IAEA-A	82: 83: 84:	(being used for testing methods)

II. LIST OF 1984 RESEARCH PROPOSALS

A. Not yet cleared by National Co-ordinator

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
FRANCE		
11 Museum National d'Histoire Naturelle Univ. Pierre et Marie Curie 06230 Villefranche-sur-Mer	Modélisation des floraisons de méduses dans une zone d'eutrophisation en mer Ligure (J. GOY)	Jelly-fish UNESCO
YUGOSLAVIA		
30 Biological Institute P.O. Box 39 50000 Dubrovnik	Investigation of jellyfishes (medusae) in the Southern Adriatic (A. BENOVIĆ)	Jellyfish FAO/UNESCO
31 Biological Institute P.O. Box 39 500001 Dubrovnik	Total day-night composition of zooplankton in the Bay of Mali Ston near Dubrovnik (F. KRŠINIĆ)	Jellyfish UNESCO



COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
32 Center for Marine Research Rudjer Boskovic Institute P.O. Box 1016 41001 Zagreb	Swarming and transport of <u>Pelagia noctiluca</u> in the Adriatic Sea (T. LEGOVIC)	Jellyfish UNESCO
33 Center for Marine Research Rudjer Boskovic Institute P.O. Box 1016 41001 Zagreb	Vertical transport of pollutants in the estuary: the importance of organic aggregates (V. ZUTIC)	L UNESCO/IAEA
34 Medical Center Put Marsala Tita 61 5000 Dubrovnik	Investigation of medical effects of jellyfish on humans in the region of Dubrovnik (B. CEZAREVIC)	Jellyfish WHO
35 Medicinski Centar Pula 52000 Pula Zagrebacka 36	<u>Pelagia noctiluca</u> - Human health aspects (Z. MARETIC)	Jellyfish WHO
36 Institute of Oceanography and Fisheries, POB 114 58000 Split	Turbidity transport by residual currents (M. ZORE-ARMANDA)	F IOC/IAEA
37 Center for Marine Research Rudjer Boskovic Institute Ulica Giorđano Paliaga 5 52210 Rovinj	Monitoring of ecosystems modifications in the northern Adriatic Sea induced by eutrophication and anthropogenic activities (D. ZAVODNIK)	H FAO

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
38 Center for Marine Research Rudjer Boskovic Inst. Ulica Giordano Paliaga 5 52210 Rovinj	Toxicity of pollutants to marine organisms: physiological and biochemical studies (M. OZRETIC)	G FAO
39 Center for Marine Research Rudjer Boskovic Inst. Ulica Giordano Paliaga 5 52210 Rovinj	Monitoring of the jellyfish <u>Pelagia noctiluca</u> along the west Istrian Riviera (Northern Adriatic) (D. ZAVODNIK)	Jellyfish FAO/UNESCO
40 Marine Research Training Centre Piran 66330 Piran, JLA 65	Eutrophication of the North Adriatic and concomitant plankton blooms (N. FANUKO)	H FAO
41 Center for Marine Research Rudjer Boskovic Institute Bijenicka 54, POB 1016 Zagreb	Study of the physico-chemical interactions of natural and artificial surface active substances with toxic substances in the sea (B. COSOVIC)	G IAEA
42 Dept. of Biology Inst. of Oceanography and Fisheries, POB 114 58000 Split	Comparative study of the unusual appearance of <u>Pelagia noctiluca</u> and changes of the environmental factors (T. VUCETIC)	Jellyfish UNESCO

LIST OF 1984 RESEARCH PROPOSALS

B. Already cleared by National Co-ordinator

COUNTRY	Address of Laboratory	Title of Project and name of Principal Investigator	Activity
GREECE			
9	Inst. Pasteur Hellénique 127, Av. Vas. Sofias 11521 Athènes	Research of enteric viruses in aquatic environments (KRIKELLIS)	D WHO
10	National Technical Univ. of Athens Dept. of Civil Engineering Division of water resources	Modelling pollutant circulation and fate in coastal waters/regions (M BONAZUNTAS)	F IOC
11	Poison Control Center Children's Hospital "P.A. Kyriakou" Goudi, 15227 Athens	Epidemiology and therapeutic methods of jellyfish poisoning in Greece (P. VLACHOS)	Jellyfish WHO
12	School of Chemistry Laboratory of Food Chemistry Univ. of Athens Navarinou 13A, 10680 Athens	Isolation and identification of new molecules phosphonolipids in jellyfish (S. MASTRONICOLIS)	Jellyfish WHO

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
13 Athens School of Hygiene L. Alexandras 196 11522 Athens	Investigation for neurotoxin in shellfish of Elfsis and Saronicos Gulfs (J.A. PAPADAKIS)	D WHO
14 Univ. d'Athènes Laboratoire de Zoologie Panepistimioupolis 15771 Athènes	Etude comparative des modifications des écosystèmes des eaux côtières du Golfe et du Port de Patras soumises à l'influence des polluants (J. CASTRITSI-CATHARIOS)	I FAO
15 Zoological Laboratory Univ. of Athens Panepistimioupolis 15771 Athens	Influence of difference physico-chemical factors on the toxicity of crude oil and oil dispersants, and furthermore on Artemia salina (M. MORAITOU-APOSTOLOPOULOU)	G FAO
16 Dept. of Applied Physics Lab. of Meteorology Univ. of Athens Hippocratous 33, Athens	Dynamical study of surface cold water patterns appearing in the Gulf of Korinth (A. LASCARATOS)	F IOC
17 Zoological Laboratory Univ. of Athens Panepistimioupolis 15771 Athens	Effects of pollution on the distribution of Molluscs in the Messologi Lagoon and adjacent areas (A. NICOLAIDOU)	I FAO

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
18 Dept. of Civil Engineering Division of Water Resources National Technical Univ. of Athens	Mediterranean water Pollution from Pinios River (M. BONAZUNTAS)	L UNESCO
19 Dept. of Geology Univ. of Patras Patras	River plume dispersion into coastal waters (G. FERENTINOS)	L UNESCO
20 Dept. of Geology Univ. of Patras Patras	Dispersion and transport of heavy metals in a chromite waste dumping site, in a semi-enclosed embayment of low current and wave energy (S. VARNAVAS)	L IAEA
21 Dept. of Hydraulics School of Technology Aristotle Univ. Thessaloniki	Hydrodynamic study of the coastal transport of jellyfish (S. GANOULIS)	Jellyfish IOC/UNESCO
ISRAEL 9 Institute of Evolution University of Haifa Haifa	Complex pollution effects of two heavy metals (Mercury and Cadmium) on the genetic structure of marine organisms (E. NEVO)	G FAO

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
10 Chemical Oceanography and Marine Pollution Dept. Israel Oceanographic and Limnological Research Tel-Shikmona, POB 8030 Haifa 31080	Bioaccumulation of mercury and its distribution in various organs of some shore fishes off the Mediterranean Sea coast (B.S. KRUMGALZ)	G FAO
11 Chemical Oceanography and Marine Pollution Dept. Israel Oceanographic and Limnological Research Tel-Shikmona, POB 8030 Haifa, 31080	Some aspects of the biogeochemical cycle of mercury in a polluted area off the Israel Mediterranean coast (B.S. KRUMGALZ)	K FAO
ITALY		
40 Gruppo Ricerca Oceanologica Ist. di Fisiologia Generale Univ. degli Studi Corso Europe - Palazzo delle Scienze, 16132 Genova	Effects of organic xenobiotic compounds (Aroclor 1254) on the metabolism of the mussel <u>Mytilus galloprovincialis</u> Lam. (A. VIARENGO)	G FAO
41 Osservatorio Meteorologico di Brera Via Brera 28 20121 Milan	Transport of heavy metals into Mediterranean sea (G. CLERICI)	L WMO

COUNTRY - Address of Laboratory	Title of Project and name of Principal Investigator	Activity
<b>MALTA</b>		
2 Biology section of the Dept. of Maths and Science Univ. of Malta, Msida	Research on the effects of oil dispersants on marine organisms (V. AXIAK)	G FAO
<b>MOROCCO</b>		
2 Dépt. de Toxicologie de et de Pharmacologie Institut National Agronomique et Vétérinaire, Hassan II B.P. 6202, Rabat	Recherche sur la toxicité, la persistance, la bioaccumulation, la carcinogénicité et la mutagénicité (M. KESSABI)	G FAO
<b>SPAIN</b>		
6 Dept. de Microbiologia Facultad de Ciencias Univ. de Málaga	Survival of pathogens microorganisms in the sea-waters (P. ROMERO RAYA)	K WHO
7 U E.I. Recursos Inst. de Investigac. Pesqueras Barcelona	Distribution and abundance of jellyfish in the Catalan Coast (May-September 1984) (A. CASTELLON MASALLES)	Jellyfish FAO
<b>YUGOSLAVIA</b>		
43 Dept. of Biology Inst. of Oceanography and Fisheries, POB 114 58000 Split	Studies of toxic dinoflagellate species on the inshore waters of east coast of Adriatic (I. MARASOVIC)	H FAO

A N N E X     I I I

OUTLINE OF DOCUMENT OF THE  
PUBLICATION OF SCIENTIFIC REPORTS OF RESEARCH ACTIVITIES





United Nations  
Environment  
Programme



6 April 1984



Long-term Programme for Pollution Monitoring and Research  
in the Mediterranean Sea (MED POL - PHASE II)

MED POL SCIENTIFIC REPORTS No. 1

Prepared in co-operation with:



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
WORLD HEALTH ORGANIZATION  
WORLD METEOROLOGICAL ORGANIZATION  
UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION  
INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
INTERNATIONAL ATOMIC ENERGY AGENCY

Note: This document has been prepared by the Co-ordinating Unit for the Mediterranean Action Plan of the United Nations Environment Programme (UNEP), in co-operation with Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), World Meteorological Organization (WMO), United Nations Educational, Scientific and Cultural Organization (UNESCO), Intergovernmental Oceanographic Commission (IOC) and International Atomic Energy Agency (IAEA) under project ME/0502-81-01(2298).

The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the organizations mentioned above concerning the legal status of any State, Territory, city or area, or of its authorities, or concerning the delimitation of their frontiers or boundaries.

## Foreword

The Long-term Programme for Pollution Monitoring and Research (MED POL - PHASE II) is the environmental assessment component of the Mediterranean Action Plan which is part of the UNEP's Regional Seas Programme. Its programme was adopted by the Contracting Parties to the Barcelona Convention participating in the Mediterranean Action Plan in 1981 (UNEP/IG.23/11) and will last until 1990. The MED POL - PHASE II activities are carried out by national laboratories designated by the Mediterranean Governments and are co-ordinated by UNEP's Co-ordinating Unit for the Mediterranean Action Plan, in close co-operation with six Co-operating Agencies, (FAO, WHO, WMO, UNESCO, IOC and IAEA), responsible in particular for the day-to-day co-ordination of the research activities.

The MED POL - PHASE II programme is divided into two different groups of activities involving, respectively, monitoring and research.

- The monitoring activities are organized through National Monitoring Programmes; they include a monitoring of sources of pollution, of coastal and reference areas and of the transport of pollutants through the atmosphere.
- The research activities are based on individual research projects carried out by officially designated national research centres. The projects are carried out under agreement between the Agency and the national research centre, for a duration of a year, after their scientific and financial implications have been assessed by the relevant Co-operating Agency.

The present document is part of a series which intends to include the scientific reports of participants in the programme and more in particular in the development of the research activities of MED POL - PHASE II. The document has been prepared by the Co-ordinating Unit of the Mediterranean Action Plan after the reports have been reviewed by the relevant Co-operating Agency.

### Scientific Report

- Title of report
- Principal Investigator
- Other contributors
- Introduction and objectives of research
- Material, methods and area of investigation
- Results and discussion
- Conclusions
- References

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Note: The designations employed and the presentation of the material in this document do not necessarily reflect the official opinion of UNEP and that of the Co-operating Agencies.